AMENDMENTS TO THE CLAIMS

Please cancel Claims 1-46 without prejudice to or disclaimer of the subject matter contained therein, and add new Claims 47-65:

47. (New) A method of making a hybrid substrate assembly comprising:

implanting a preferential etching layer within a wafer to thereby form a membrane on a surface of the wafer;

permanently attaching a substrate-of-choice to the membrane; and

etching the preferential etching layer with an etchant to separate the membrane from a remainder of the wafer and thereby provide a hybrid substrate assembly that includes the substrate-of-choice permanently attached to the membrane, wherein the wafer is less susceptible to the etchant than the preferential etching layer.

48. (New) The method of Claim 47, wherein the preferential etching layer is an oxide layer.

49. (New) The method of Claim 47, wherein the wafer is a semiconductor.

50. (New) The method of Claim 47, wherein the substrate-of-choice is wafer bonded to the membrane.

51. (New) The method of Claim 47, wherein the etching step removes at least substantially the preferential etching layer from the substrate-of-choice and the membrane and including the step of:

aligning a crystalline construction of the substrate-of-choice to a crystalline construction of the membrane before the permanently attaching step.

52. (New) The method of Claim 47, further comprising:

providing a wetting layer intermediate the substrate-of-choice and the membrane, the wetting layer having an element that is common to the compositions of the wafer and substrate-of-choice.

53. (New) The method of Claim 47, further comprising:

thermally oxidizing the preferential etching layer before the permanently attaching step, wherein a temperature of the oxidizing step is greater than a temperature of the implanting step and wherein the temperature of the oxidizing step is at least about 600 C.

54. (New) The method of Claim 47, wherein the implanting and etching steps respectively comprise an oxygen-implantation step and an acid-etching step.

55. (New) The method of Claim 47, further comprising:

providing a wetting layer intermediate the substrate-of-choice and the membrane before the permanently attaching step.

56. (New) The method of Claim 47, further comprising:

heating the membrane, wherein a temperature of the heating step is greater than a temperature of the implanting step, wherein the heating step occurs after the implanting step and before the etching step, and wherein the temperature of the heating step is at least about 600 C.

57. (New) The method of Claim 47, wherein an etchant is used in the etching step and the wafer is resistant to the etchant while the preferential etching layer is susceptible to the etchant and further comprising:

repeating the implanting step, the permanently attaching step, and the etching step a plurality of times relative to the plurality of substrates-of-choice, to thereby provide a

plurality of hybrid substrate assemblies that each include a substrate-of-choice wafer bonded to a membrane.

58. (New) The method of Claim 47, wherein the wafer is selected from the group consisting essentially of 6H-SiC, 4H-SiC, 3C-SiC, 15R-SiC, and combinations thereof.

59. (New) The method of Claim 47, wherein the substrate-of-choice is selected from the group consisting essentially of silicon, silicon dioxide, silicon carbide, sapphire, aluminum nitride, diamond, Si_3N_4, and combinations thereof.

60. (New) The method of Claim 47, wherein the etchant is hydrofluoric acid.

61. (New) A hybrid substrate assembly formed by the process of Claim 47.

62. (New) A hybrid assembly, comprising:

a wafer, the wafer comprising a preferential etching layer; and

a substrate-of-choice, wherein the wafer is bonded permanently to the substrate-of-choice and wherein the preferential etching layer is located adjacent to a free surface of the wafer.

63. (New) The hybrid assembly of Claim 62, wherein the wafer is selected from the group consisting essentially of 6H-SiC, 4H-SiC, 3C-SiC, 15R-SiC, and combinations thereof.

64. (New) The hybrid assembly of Claim 62, wherein the substrate-of-choice is selected from the group consisting essentially of silicon, silicon dioxide, silicon carbide, sapphire, aluminum nitride, diamond, Si_3N_4, and combinations thereof.

65. (New) The hybrid assembly of Claim 62, wherein the preferential etching layer is an oxide layer.